

WHAT IS CLAIMED IS:

1 1. A method for projecting information in image form
2 onto a light-sensitive material, wherein said information is
3 composed of image dots produced by at least one pixel-
4 generating device and said image dots are projected onto the
5 light-sensitive material with a specific amount of light power
6 over a specific length of exposure time, the method comprising
7 the steps of:

- 8 - driving the at least one pixel-generating device with a
9 voltage of periodically alternating polarity which
10 alternates between half-periods of negative voltage and
11 half-periods of positive voltage, wherein said negative and
12 positive voltages are equal in absolute magnitude, and
13 wherein one each of the respective half-periods of negative
14 and positive voltage add up to a full period having a
15 period length; and
16 - allocating said exposure time for each image dot equally to
17 the respective half-periods of negative and positive
18 voltage.

1 2. The method of claim 1, wherein said specific
2 amount of light power is selected so that the exposure time is
3 an integer multiple of said period length.

1 3. The method of claim 1, wherein the period length
2 is selected so that the exposure time is an integer multiple
3 of said period length.

1 4. The method of claim 1, wherein the exposure time
2 is subdivided into at least two partial exposure time
3 intervals which are separated by at least one exposure time
4 break.

1 5. The method of claim 4, wherein the at least one
2 exposure time break begins within one of said half-periods and
3 ends at a next-following zero-crossing of said alternating
4 voltage.

1 6. The method of claim 4, wherein a magnitude of the
2 light power is measured during the exposure time and wherein
3 at least one of the light power, the exposure time, and the
4 period length is adjusted based on said measured magnitude.

1 7. The method of claim 6, wherein an
2 intensity/frequency converter is used for said measuring of
3 the light power, and wherein the intensity/frequency converter

4 delivers an output signal consisting of countable pulses
5 following each other with a frequency that represents a
6 measure for the light power.

1 8. The method of claim 7, wherein the specific amount
2 of light power over the specific exposure time corresponds to
3 a quantity of light and wherein said quantity of light
4 corresponds to a certain number of said pulses, wherein said
5 certain number is divided into two halves, wherein a first
6 half of the pulses is allocated to the half-periods of
7 negative voltage and a second half of the pulses is allocated
8 to the half-periods of positive voltage, and wherein the
9 pulses in the output signal of the intensity/frequency
10 converter are counted down from the first half during the
11 half-periods of negative voltage and counted down from the
12 second half during the half-periods of positive voltage

1 9. The method of claim 8, wherein the at least one
2 exposure time break is started if one of said down-counts has
3 reached zero before a current half-period of the alternating
4 voltage has ended, and the projection of the image dots onto
5 the light-sensitive material is resumed at a next-following
6 zero-crossing of said alternating voltage.

1 10. The method of claim 9, wherein the projection of
2 the image dots onto the light-sensitive material is terminated
3 when both of said down-counts have reached zero.

1 11. An apparatus for projecting information in image
2 form onto a light-sensitive material, said information being
3 composed of image dots, wherein the apparatus comprises:

- 4 - at least one pixel-generating device for producing said
5 image dots,
 - 6 - a light source for projecting said image dots with a
7 specific amount of light power over a specific length of
8 exposure time onto the light-sensitive material;
 - 9 - a control device which drives the at least one pixel-
10 generating device with a voltage of periodically
11 alternating polarity which alternates between half-periods
12 of negative voltage and half-periods of positive voltage,
13 wherein said negative and positive voltages are equal in
14 absolute magnitude, and wherein one each of the respective
15 half-periods of negative and positive voltage add up to a
16 full period having a period length;
- 17 wherein the control device is configured to switch the light
18 source on and off in such a manner that said exposure time for

19 each image dot is allocated equally to the respective half-
20 periods of negative and positive voltage.

1 12. The apparatus of claim 11, further comprising an
2 LCD array with a plurality of pixel generators arranged in
3 rows and columns.

1 13. The apparatus of claim 12, wherein the light
2 source comprises a plurality of light-emitting diodes of
3 different colors, and wherein said light-emitting diodes are
4 individually controllable.

1 14. The apparatus of claim 13, wherein the apparatus
2 further comprises a sensor for measuring said light power.

1 15. The apparatus of claim 14, wherein the sensor
2 comprises an intensity/frequency converter.

1 16. The apparatus of claim 15, wherein the
2 intensity/frequency converter delivers an output signal
3 consisting of countable pulses and wherein the apparatus
4 further comprises a counter for counting said pulses.